Herb Guide

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From A to Z, check out our primer on selected herbs that can heal your dog.

HERBS CAN HEAL YOUR DOG, AS WELL AS you and your other pets. However, the key to the successful use of herbs is understanding what effects you are looking for and how the herbs you choose work.

Although it is unrealistic to try to fully grasp existing herbal wisdom from this small endeavor, you can become more aware of herbs and their uses by learning how each plant works within the body. In Western herbalism, the effects that plant chemistries have in or on a body are called *medicinal actions* or *active properties*. Each herb's medicinal actions tell you which herbs are likely to work when a need arises.

However, you need know not only *how* herbs work in the body, but also *where* they work best. Most herbs have one or more special affinities with specific systems of the body. For instance, slippery elm has a general astringent action, which means it somewhat constricts tissues wherever it is applied. However, an animal herbalist recognizes that slippery elm's astringency is especially effective in the digestive tract, where it quickly but safely constricts the inner wall of the small intestine. This makes the herb an excellent choice for treating diarrhea and colitis.

In our experience as animal herbalists, we have found some herbs particularly useful in the care of dogs. Here, those powerful herbs have been categorized by their special affinities. This is only an abbreviated list of herbal options to consider for canine care, so we advise you to continue learning about herbal pet care and have provided a list of recommended texts. *(See the sidebar, "Recommended Reading," on page 38.)*

DOSAGE AND DURATION

The dosage and duration of an herb therapy is dependent on the specific needs, tolerances and metabolism of the animal

Bright echinacea flowers are unmistakeable in their beauty and their usefulness to people and animals.

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receiving the herb. In other words, the answers to how much and for how long may vary from animal to animal.

How well you know your animal and how accurately you note its responses to specific herbal remedies is the key to success. Start conservatively if you're administering herb extracts, infusions or dried herbs internally to dogs, cats and herbivores. Use only one or two herbs at a time and proportion the animal's dose based on its body weight and the recommended human dosage, seasoned with your veterinarian's opinion, a reputable reference book or the product manufacturer's recommendations. For example, a 30-pound dog would receive one-fifth of a dose that is recommended for a 150-pound human.

Remember: This is a starting point—dogs, cats and other carnivores have much faster metabolic rates than we do. You might have to increase the dosage later to achieve the results you are looking for. This is safely accomplished by increasing the dose in 10 percent increments, if needed, to a maximum of 50 percent above the starting dose.

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Above: Rosemary is helpful in digestive upsets that stem from nervousness. Right: Cornsilk soothes urinary infections.

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In other words, if you have determined that the starting dose for Max is 20 drops of burdock, twice daily, then you can increase the dose two drops at a time until you reach 30 drops, if necessary. Most animals require a dose two to three times daily.

The duration of an herbal therapy also depends on the specific animal and varies according to the disease you are confronting. Generally, it is best to take at least a two-day break from herbal therapies each week (five days on, two days off). This allows you to monitor the body's responses to the herbs and to alleviate any tolerance or toxicity problems the animal may otherwise develop as a result of long-term use.

The duration required to see results varies greatly as well and is dependent on the nature of the herb, the animal and the severity of the imbalance. If the expected results don't begin to materialize after you have maintained a maximum dosage schedule for more than 10 days, it's time to try another herb or to consult your holistic veterinarian.

In any case, keep good records of your successes, failures and observations. Note any strange or unusual behaviorial changes, eating changes, physical symptoms or lack of results at each dosage level. Is the herb prompting the expected and desired result that you're looking for?

Exactly how long to maintain an herbal therapy can only be determined through experience and familiarity with your animal, and good record keeping is instrumental to becoming an effective herbalist.

GLOSSARY

Action: See medicinal action.

Adaptogen: A nontoxic substance that is believed to generally increase stamina and overall energy levels in the body, especially in stressful conditions.

Alterative: An action that gradually alters an existing condition in the body. A *blood alterative* is often referred to as a *blood cleanser,* because it alters the entrance of toxins and waste materials into the bloodstream, in most cases through stimulation of liver function.

Analgesic: A pain-relieving substance.

Anesthetic: A substance that reduces painful sensitivity. Unlike general analgesics, anesthetics often can be applied locally. An injection of Novocain at the dentist is an example of a local anesthetic.

Anticatarral: A substance capable of assisting the body in elimi-

nating excess mucus from the upper respiratory tract through anti-inflammatory actions on the mucus membranes that are responsible for the secretions.

Antifungal: Capable of preventing or inhibiting fungal infections.

Antihidrotic: Capable of preventing or inhibiting perspiration.

Antihistamine: An herb or drug that alters histamine responses in the body, with the effect of reducing the discomforts of allergic reactions and, in some cases, motion sickness.

Antilithic: That which prevents the formation or aids in the elimination of gravel or stones in the urinary system.

Antimicrobial: An action that helps the body resist, inhibit or destroy pathogenic microbes. In holistic medicine, this term generally describes actions that help the body fight bacteria, fungi or viruses at their original point of infection.

Antioxidant: A general, perhaps worn-out term referring to the ability of a substance to control or eliminate free radicals or reduce cellular oxidation in the body.

Antipyretic: Capable of reducing fever.

Antirheumatic: Capable of relieving the symptoms of rheumatic conditions, such as rheumatoid arthritis.

Antiscorbutic: A substance that helps prevent or cure scurvy or other imbalances relative to vitamin C deficiency.

Antiseptic: Generally refers to substances that kill or inhibit the growth of pathogenic microbes. In holistic medicine, this term describes substances that interfere with bacterial infections, regardless of the body's natural abilities to do so. In this context, antiseptic herbs are applied as allopathic remedies.

Antispasmodic: Capable of relieving spasms.

Antitussive: Capable of suppressing coughing.

Antiviral: Capable of inhibiting the reproduction or activity of a virus.

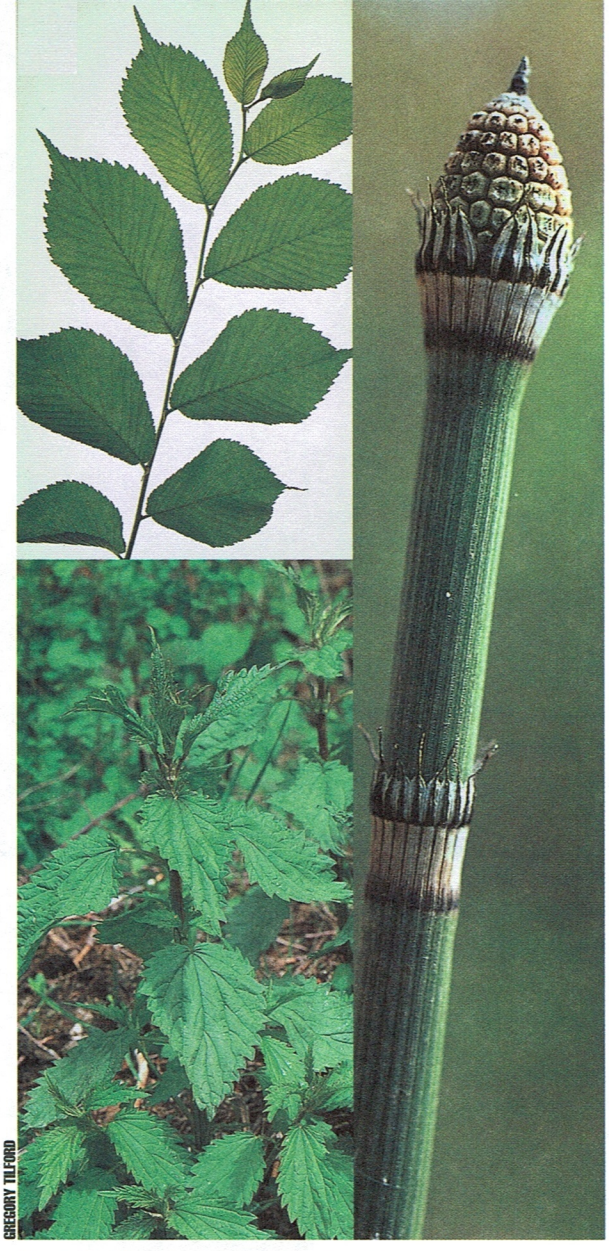
Astringent: Capable of tightening soft tissues of the body. Astringents are used to stop bleeding, reduce inflammation and stop diarrhea.

Bacteriostatic: Specifically acting to inhibit the multiplication of bacteria.

Bitter Tonic: A substance that stimulates digestive functions, first in the mouth and later in the stomach and liver. Bitter tonics are traditionally used to aid digestion.

Candida: A yeastlike genus of fungi that inhabit the vagina, digestive tract or both, which under certain conditions may cause *candidiasis,* an acute or chronic yeast infection.

Carcinogen, carcinogenic: A substance or agent that promotes the formation or growth of cancer.



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Top left: Slippery elm soothes the stomach.
Bottom left: Watch out for Nettle's painful needles. Make sure the herb is completely dried before you use it.
Right: Horsetail strengthens urinary tract tissues.

Cardiac tonic: Capable of strengthening the heart muscle, stimulating heartbeat or both, in a manner beneficial to body functions.

Carminative: A substance that helps expulse gas from the digestive tract, having a *carminative action* in the body.

Catarrh: The excessive secretion of thick phlegm or mucus from inflammed mucus membranes. *See anticatarrhal.*

Cathartic: A synonym for *laxative.* This term generally is used to describe a strong laxative.

Cholagogue: Refers to substances that stimulate bile production in the liver.

Coagulant: A substance capable of promoting blood clotting, converting blood from a liquid to a semisolid state.

Constituent: A single element or a compound ingredient that is part of a whole. A *medicinal constituent* in a plant is an element or compound that makes the plant medicinally useful.

Decoction: An herbal preparation made by simmering plant material in water until maximum extraction of active constituents is achieved. This process is usually used for roots, barks and seeds that are not water soluble enough for use in simple infusions (teas).

Demulcent: A substance that provides a protective coating and soothes irritated bodily tissues.

Dermatitis: Inflammation of the skin.

Diaphoretic: Capable of stimulating perspiration.

Digestive tonic: A substance that aids digestion.

Diuresis: The process by which the body eliminates waste and excesses through kidney function and subsequent urination.

Diuretic: A substance that stimulates diuresis.

Emetic: A substance that induces vomiting.

Emmenagogue. A substance that promotes menstruation.

Emollient: A substance that soothes, protects and softens the skin. The external counterpart to a demulcent.

Expectorant: A substance that helps expel mucus from the upper respiratory tract.

Hemostatic: Refers to the stoppage of bleeding. Most herbal hemostatic substances work by astringent actions.

Hepatic: A general term referring to medicinal action upon the liver.

Hypertension: High blood pressure.

Hyperthyroidism: Overactive functioning of the thyroid gland.

Hypothyroidism: Depressed thyroid function.

Hypotension: Low blood pressure.

Hypotensive: Capable of reducing blood pressure.

Immunostimulant: An herb that strengthens the body's resistance to infection by stimulating and increasing immune system

Glossary continued on page 35.

Herbs From A to Z

CARDIOVASCULAR AND CIRCULATORY SYSTEMS

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Garlic (*Allium sativuum*)	Bulbs (cloves); below ground portion.	Hypotensive, tonic, nutritive.	Grocery and health-food stores.	Fresh cloves or low-alcohol tincture.	May help lower blood cholesterol and triglyceride levels, making it useful for Miniature Schnauzers, Beagles and other breeds that may be predisposed to *hyperlipidemia*, a condition that can lead to chronic seizures. Helps prevent blood-clot formation in the vascular systems of animals.	May cause digestive upset in some animals. If fed in excessive quantities over extended periods, garlic may cause blood disorders (i.e., Heinz-body anemia) in dogs and cats.
Ginkgo (*Ginkgo biloba*)	Leaves.	Antioxidant, vasodilator, anti-inflammatory, stimulant, anti-clotting.	Herb catalogs; slow growing, requires large quantities of water.	Low-alcohol tincture or standardized extract.	Prevents platelet aggregation that can lead to artery blockages. Particularly useful when blood circulation to the brain, ears, extremities, kidneys or rectum has been impaired.	Do not use during pregnancy or lactation or for prolonged periods in high doses.
Hawthorn (*Crataegus species*)	Berries, flowering branches (leaves intact).	Circulatory moderator.	Grocery and health-food stores.	Fresh or dried ground berries or low-alcohol berry tincture.	More than 400 scientific studies confirm that hawthorn helps regulate blood pressure (lowers high blood pressure; raises low blood pressure) and improves cardiovascular efficiency. Believed to strengthen heartbeat and improve arterial blood supply in dogs with coronary irregularities or heart deficiencies.	Combines well with garlic and dandelion to treat chronic heart conditions and vascular disorders. Seek professional guidance in these circumstances.
Cayenne (*Capsicum annum and frutescens*)	Dried seed pods.	Dilates blood vessels, stops bleeding, vascular tonic, pulmonary and circulatory stimulant.	Supermarket or herb store.	Encapsulated.	Increases peripheral blood flow throughout the body and strengthens small capillaries of the skin and extremities. Inhibits bleeding when used internally or externally. Cayenne powder can be applied directly into an open wound (but not into the eyes or other mucous areas) to immediately stop bleeding. Relieves pain and inflammation of joint injuries and arthritis.	May cause instantaneous blistering. A good choice for chronic or acute respiratory or digestive tract bleeding. Avoid contact with the eyes.
Ginger (*Zingiber officinale*)	Root.	Vasodilator, circulatory tonic.	Supermarkets and herb stores.	Capsules, grated fresh root, dried powder.	Increases peripheral blood circulation by dilating small capillaries. Useful as a *carrier* for other herbs; improves transport of nutrients and blood in the body. Alternative to cayenne.	Good for respiratory infections and congestion, combining particularly well with mullein, goldenrod and yarrow.
Yarrow (*Achillea millefolium*)	Flowers, leaves and stems.	Vasodilator, vasoconstrictor, tonic, hypotensive, antimicrobial, hemostatic.	Herb retailers, flower nurseries; a common weed in much of North America.	Dried flowers and leaves, tincture, tea, oil infusion.	Yarrow oil or tea externally helps relieve inflammation or bleeding of small, subdermal blood vessels, especially those of the ear flaps. Internally, safely, effectively stops bleeding of the stomach. Tincture or tea increases blood circulation in the extremities, ears and lungs. Apply fresh or dried yarrow directly to wounds to stop bleeding and inhibit bacteria.	The volatile oils of this plant may cause *contact dermatitis* when applied to the skin of sensitive animals. Like most herbs rich with volatile oils, do not use yarrow in pregnant or lactating animals, as these constituents cross the placenta to the fetus and are known to have abortifacient effects if ingested in large enough quantities.

DIGESTIVE SYSTEM

Bee Balm (*Monarda species*)	Flowers and foliage.	Expels gas, antibacterial, astringent, diuretic, carminative.	Some herb stores, nurseries; widely found in wild.	Infusion, tincture.	Acute gastritis, spastic colon; use in place of sage	Safe for long-term use, but watch out for herbicides if you gather it from the wild.
Black Walnut (*Juglans nigra*)	Green, unripe hulls.	Expels intestinal parasites, astringent.	Herb stores (tincture).	Tincture.	Tapeworms; symptomatic control of diarrhea.	Combines well with garlic and pumpkin seeds to combat tapeworms. May cause digestive disorders if used over an extended period.
Catnip (*Nepeta cataria*)	All above-ground parts.	Carminative, antispasmodic, mild sedative.	Health-food stores; seed from catalogs.	Tincture or infusion.	Relieves stomach upset resulting from excess gas or nervousness. A relaxing and sedative tea.	Leaves are safe, but the seeds may be toxic.
Chamomile (*Matricaria chamomile*)	Flowering tops.	Sedative, antispasmodic, digestive, anti-inflammatory, carminative.	Health-food stores; seed from catalogs.	Infusion (tea).	Helps relieve gas and reduces spasms in colitis, spastic colon and other forms of colic. Promotes healing in the digestive tract; a tonic for dogs recovering from stomach ulcer or a severe infestation of round, whip or wire worms. Has weak *vermifuge* (worm-expelling) properties. Very safe; one of the first herbs to try in most cases of acute digestive distress.	If your dog is allergic to ragweed, avoid chamomile, otherwise it is very safe; a good choice for long-term applications.
Comfrey (*Symphytum officinale*)	Leaf.	Soothes and protects tissues; speeds healing internally and externally.	Herb stores; easy to grow from nursery stock.	Infusion (oil or water), salves; bulk dry or fresh herb as a short-term food supplement.	Used in short-term moderation to reduce inflammation and speed healing of digestive ulcers, colitis, injuries and damage caused by giardiasis or severe worm infestation.	Contains potentially carcinogenic alkaloids, so comfrey is regarded as "unsafe for internal use" by the FDA. Nevertheless, it has been safely used in moderation by herbalists for thousands of years—the operative word is *moderation.*

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Dill *(Anethum graveolens)*	All aerial parts.	Soothes stomach, antimicrobial, carminative.	Supermarket or herb store.	Infusion, poultice, extract, encapsulated, dried bulk.	Safe and effective in a wide variety of digestive ailments. Helps relieve stomach upset and expel painful gas. Rub a poultice or tea onto an animal's gums to reduce bad breath and fight infection.	Very safe.
Fennel *(Foeniculum species)*	Seed.	Carminative, antispasmodic, antimicrobial.	Supermarket or herb store; easy to grow.	Bulk dried seeds, encapsulated, infusion, glycerin extract.	Excellent remedy for dogs with chronic or acute gastritis. Also freshens breath.	Safe and effective against fungal infections of the digestive tract. Swab the extract onto teeth and gums to fight gingivitis and freshen breath. Safe for long-term use.
Licorice *(Glycyrrhiza glabra)*	Root.	Expectorant, alterative, demulcent, anti-inflammatory, vulnerary, antimicrobial, adrenal agentmild laxative, liver tonic.	Herb catalogs, health food stores.	Low-alcohol (glycerin-based) tincture.	In the digestive tract, licorice helps heal ulceration and injuries of mucous membranes that might be damaged by parasitical infestation or eating indigestible objects, such as small rocks, wood or sharp bone shards. Indicated in many cases of inflammatory bowel disease (see a veterinarian). Known to help protect the liver from toxins.	Not recommended for those with high blood pressure due to water retention. During long-term use, add a potassium supplement and a diuretic, such as dandelion leaf.
Marshmallow *(Althea officinalis)*	Roots.	Soothes and protects internal/external tissues, diuretic, nutritive, vulnerary (wound healing), antimicrobial.	Herb catalogs, health food stores.	Low-alcohol extract, tea, fresh or dried chopped root.	A safe, must-have herb to keep on hand for cystitis, enteritis, diarrhea, urinary incontinence or to ease the passage of small bladder stones. The slippery, oily mucilage in this root serves as an infection-fighting lubricant in the digestive and urinary tracts. Also used for constipation, acting similarly to psyllium husks or flax seed.	May slow absorption of some drugs. Use only low-alcohol extracts; extracts that contain more than 20 percent alcohol may cause digestive upset in animals.
Oregon Grape *(Mahonia species)*	Roots.	Antimicrobial, alterative, cholagogue, hepatic, tonic, laxative.	Herb catalogs, health food stores.	Tincture, water or oil infusion.	In many instances, you can use Oregon grape instead of goldenseal, which is threatened. Often useful with chronic constipation as it stimulates bile production in the liver, which improves digestion. A general standby antimicrobial useful in many digestive tract infections, including giardia.	Do not use in acute liver disease, nor in pregnant or lactating animals.
Psyllium/ Plantain *(Plantago species)*	Seeds, seed heads, foliage, roots.	Soothes and protects tissues internally/externally; mildly astringent.	Health food stores.	Infusion, extract, dried herb, poultice.	Psyllium seed is effective for acute cases of constipation. The leaf or root extract is useful with skin and digestive tract irritations.	Watch out for herbicides when harvesting.
Pumpkin Seed	Raw, unsalted, dried seed.	Helps expel tapeworms.	Health food stores.	Ground or whole.	Fights tapeworms. Grind and add a liberal amount to your pet's food—or feed them whole as a treat. Pumpkin seeds are believed to expel tapeworms by at least two mechanisms: roughage that "scrubs" the worm segments out of the digestive tract and *cucubiticins* and other chemical constituents believed to be toxic to the parasites.	Very safe; expect one or two months of continuous feeding before seeing desired results.
Rose *(Rosa species)*	Fruits (hips), flowers, leaves, bark.	Fruits (hips), flowers, leaves, bark.	Fruits (hips), flowers, leaves, bark.	Decoction (bark), infusion (leaves andhips), direct applicationor poultice (flowers).	Flowers, leaves or bark, which is the strongest, all have astringent qualities that can relieve the symptoms of diarrhea or minor bleeding in the stomach or colon.	Suspect herbicides on wild stands of this plant.
Rosemary *(Rosmarinus officinalis)*	Leaves, stems, flowers.	Antimicrobial, sedative, astringent; expels gas, circulatory stimulant.	Herb stores, supermarket; easy to grow.	Infusion or extract.	Especially useful in digestive disorders that are attributable to nervousness.	Similar in action to chamomile but stronger. Do not use in pregnant animals.
Senna *(Cassia senna)*	Dried fruit pods.	Cathartic (a strong laxative).	Herb stores.	Infusion, encapsulated.	Use for acute constipation, only when all other measures have failed.	In general, we dislike this herb. It is extremely harsh, often causing abdominal griping and cramping and severe diarrhea. Senna is not a holistic approach to the treatment of constipation or worms; use it only as a last resort under professional guidance.
Slippery Elm *(Ulmus fulva)*	Inner bark of the tree.	Demulcent, astringent.	Herb and health food stores.	Tincture or infusion.	A classic remedy for acute diarrhea, stomach ulcers, constipation and colitis. Combines soothing, lubricating mucilage with the astringent tannin constituents, i.e., it reduces inflammation of mucous membranes while providing a slippery, protective barrier in the digestive tract.	Very safe; combines well with red clover, burdock and yellow dock to eliminate excess waste from the liver and digestive tract.
Turmeric *(Curcuma longa)*	Roots.	Antibacterial, liver tonic antiparasitic, anti-tumor.	Herb store and supermarket.	Tincture or encapsulated.	Fights chronic constipation associated with poor liver function, may be useful against giardia and other parasites. Protects the liver against damaging toxins.	Studies at Rutgers University have shown that turmeric helps prevent tumor growth in animals.
Turkey Rhubarb *(Rheum palmatum)*	Root.	Laxative, antibiotic, antimicrobial, anti-tumor.	Herb and health food stores.	Tincture or infusion.	Turkey rhubarb is a strong laxative and a liver tonic; useful in small doses to relieve constipation and to help liver metabolism and elimination of toxic substances and metabolic waste products. Often used to treat some types of cancer.	Do not use in animals that are pregnant, lactating, newborn or that have kidney problems. Use in small doses to aid digestion, not to replace them.

MOUTH AND GUMS

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Goldenseal *(Hydrastis canadensis)*	Roots.	Antimicrobial, anti-inflammatory.	Organically grown from herb and health-food stores.	Tincture or poultice; applied directly to affected mouth areas.	Effective against mucosal inflammations of ulcers and irritations of the mouth, against a broad spectrum of pathogens, including *Streptococcus sp., Staphylococcus sp., Shigella dysenteriae, Salmonella* and several others.	Use organically grown only. It is compromised in the wild because of over-harvesting and habitat loss. In most instances, Oregon grape can be used instead. Do not use in animals with low blood sugar, low blood pressure or during pregnancy. Very bitter tasting; temporarily stains the gums and teeth bright yellow.
Thyme *(Thymus species)*	Leaves, stems, flowers.	Antimicrobial, astringent.	Supermarket; easy to grow.	Infusion, tincture.	An excellent disinfectant for the mouth and gums. Contains *thymol*, the active ingredient in many commercial mouthwashes. Swab a strong tea onto the dog's gums, or dilute a tea or tincture and add to the animal's drinking water.	Very safe. However, when eaten in very large amounts, thyme has been known to affect the menstrual cycle. Therefore, use it with moderation in pregnant animals.

ENDOCRINE SYSTEM

Licorice *(Glycyrrhiza glabra)*	Root.	Expectorant, alterative, demulcent, anti-inflammatory, adrenal agent, mild laxative, liver tonic.	Herb catalogs, health food stores.	Tincture.	Shown to stimulate adrenal function, making it potentially useful to treat Addison's disease.	Not recommended for animals with high blood pressure or water retention problems. Contraindicated in animals with adrenal hyperactivity.
Borage *(Borago officinale)*	Leaves.	Hyperthyroid, diuretic.	Herb retailers, nurseries; easy to grow.	Tea or tincture.	Traditionally used to gently stimulate adrenal function in cases of Addison's disease, after prolonged corticosteroid therapies, and in other disorders that diminish the adrenal output. Much weaker than licorice in this action, so it can be used more safely in long-term therapies.	Do not use in animals with adrenal hyperactivity. The leaves contain small amounts of *pyrrolizidine alkaloids*, which causes liver disease in some individuals. Although the amount of these alkaloids in borage is low (much lower than in comfrey), requiring one to eat very large and sustained quantities before the levels become harmful in most animals, borage has nonetheless been banned from human use in Germany.
Bugleweed *(Lycopus americanus)*	All above-ground parts.	Analgesic, sedative, hypothyroid.	Herb stores; widely distributed in the wild.	Tincture.	Slows thyroid function and may be useful in animals with hyperthyroid conditions.	Do not use in animals with depressed thyroid function. Use only as directed by a trained practitioner.
Lemon Balm *(Melissa officinalis)*	All above-ground parts.	Sedative, carminative, antidepressive, antimicrobial, hypothyroid.	Herb stores, nurseries; easy to grow.	Tincture.	Believed to slow thyroid output by inhibiting antibody attachment and iodide uptake by thyroid cells. May be useful for animals with hyperthyroid conditions.	Do not use in animals with depressed thyroid function.

EYES

Eyebright *(Euphrasia species)*	Flowering plant.	Astringent, anti-inflammatory.	Herb retailers; we discourage its use.	Diluted infusion or alcohol extract.	Conjunctivitis.	Over-harvested from its natural habitat; please use one of the alternatives that follow!
Red Raspberry *(Rubus idaeus)*	Leaves (thoroughly dried).	Astringent,	Seed catalogs, herb and health-food stores.	Tea.	Use a dilute tea as an astringent eye wash to treat conjunctivitis and soreness in moist tissues.	Thoroughly dry the leaves; they become temporarily, mildly toxic when they first wilt.
Nettle *(Urtica species)*	Leaves (thoroughly dried).	Astringent.	Seed catalogs, herb and health-food stores.	Tea.	Use a dilute tea as an astringent eye wash to treat conjunctivitis and soreness in moist tissues.	The fresh (live) plant causes an instantaneous, painful contact dermatitis. Thoroughly dry the herb to neutralize its sting and render the plant safe for use. Never attempt to use this plant in its living form!

GENITO-URINARY SYSTEM

Cornsilk *(Zea mays)*	The fine, soft threads (or *stigma*) from the female flowers.	Diuretic, tonic; soothes membranes.	Herb stores; clip from organically grown ears of corn.	Infusion or tincture of fresh (undried) silk.	Useful during acute urinary inflammation and early onset of kidney problems when mild diuretic activity is needed. Believed to strengthen and tighten urinary smooth muscle tissues, makes it potentially useful in urinary incontinence.	Combines well with couchgrass and echinacea to treat urinary inflammations and infections. Generally safe for long-term use, but use with caution in advanced cases of kidney disease.

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Couchgrass *(Agropyron repens)*	Rhizomes (rootlets).	Demulcent, tonic, diuretic, antimicrobial, anti-inflammatory.	Herb stores; a common garden grass weed.	Infusion or tincture.	One of the first herbs to use for urethritis, cystitis and kidney or bladder stones. Specifically reduces inflammation in the bladder and lower urinary tract. Unlike other herbs used for these ailments, couchgrass generally won't irritate the kidneys, making it safe and effective to treat a variety of urinary ailments.	Also known as *quackgrass* or *dog grass*. Always watch out for herbicides on this weed. Combines well with echinacea, cornsilk, horsetail and dandelion to treat inflammatory urinary problems.
Dandelion Leaf *(Taraxacum officinalis)*	Leaves.	Diuretic and nutritive (leaves); liver conditions and rheumatoid ailments (roots).	Herb store; a common garden weed.	Tea or dried leaves.	Dandelion leaves are among nature's strongest diuretics; useful when increased urine production and flushing of the urinary tract is of therapeutic benefit. Unlike most pharmaceutical diuretics, dandelion replaces much of the potassium lost through increased urination.	Very safe.
Ginkgo *(Ginkgo biloba)*	Leaves	Antioxidant, vasodilator, anti-inflammatory, stimulant, anti-clotting	Herb store, grocery store.	Tincture.	We believe this herb is especially useful for increasing blood circulation in the smaller capillaries of the kidneys, so it may be tremendously beneficial to dogs with progressive renal failure associated with poor oxygenation of nephritic tissues.	Do not use during pregnancy or lactation or for prolonged periods in high doses. If you suspect kidney problems, see your veterinarian.
Goldenrod *(Solidago species)*	Aerial parts of the flowering plant.	Astringent, kidney tonic, diuretic.	Herb retailers; a common weed.	Tincture or infusion.	Strengthens mucous membranes and increases kidney function, making it useful for urinary incontinence, chronic cystitis or weak kidney function.	Do not use with pre-existing kidney inflammation. Highly allergenic; use with caution at first. Commonly sprayed with herbicides; do not gather from roadways or cultivated areas.
Horsetail *(Equisetum arvense)*	Above-ground portions.	Anti-inflammatory,diuretic, astringent, anti-hemorrhagic, vulnerary (wound healing).	Herb stores; widely distributed in the wild.	Tincture or decoction.	Cleanses and strengthens urinary tract tissues. Useful in some cases of bladder incontinence and cystitis. Helps flush dead, superfluous tissue and stop minor bleeding in the lower urinary tract.	Do not use in animals with hypertension and cardiac problems or during pregnancy. May irritate the urinary tract if used long-term. Pulls heavy metals and toxins from its environment: Do not gather it near roadways or from contaminated soil.
Juniper *(Juniperis species)*	Berries, leaves.	Diuretic, anti-microbial; lowers blood sugar levels.	Herb stores, supermarkets (berries); easy to grow as a landscape shrub.	Diluted tincture (1 part tincture to 2 parts water) or a decoction (leaves and berries).	A strong antiseptic and astringent medicine for acute urinary tract infections. Quickly knocks down inflammation and infection in severe cases of cystitis, but reserve its use for otherwise healthy animals that are not suffering from any kind of pre-existing kidney disease.	Do not use in animals with pre-existing kidney disease. The leaves are strongly astringent, so dilute all preparations. Grind one or two berries and add them to food to treat urinary tract infections. May cause urinary and kidney irritation if used over an extended time.
Oregon Grape *(Mahonia species)*	Root.	Alterative, antimicrobial, anti-inflammatory, cholagogue, hepatic, tonic, laxative.	Herb catalogs, health food stores.	Extract or infusion (water or oil).	Use instead of goldenseal as a general purpose antibacterial and antiinflammatory agent to treat cystitis.	Do not use in animals with acute liver disease. Do not use in pregnant or lactating animals.
Shepherd's Purse *(Capsella bursa-pastoris)*	Entire flowering plant.	Diuretic, astringent, hypotensive; slows bleeding.	Seed catalogs, health and herb stores; grows on your front lawn.	Tincture or tea of the fresh herb.	A general anti-inflammatory for lower urinary tract problems. Stops minor bleeding caused by cystitis or the passage of gravel.	Do not use if the animal has blood-clotting disorders.

MUSCOSKELETAL SYSTEM

Alfalfa *(Medicago sativa)*	Leaves, stems, unopened flowers.	Nutritive, anti-inflammatory, diuretic.	Health-food stores; grow it in your garden.	Bulk herb, infusion, tincture.	Helps reduce arthritic pain when used long-term. Increases appetite and improves nutrient absorption in the intestine, making more vitamins and minerals available to growing or regenerating bones and connective tissues.	Generally safe, but alfalfa contains *saponins*, compounds that may cause nausea in some animals if used in large quantities over extended periods. The seeds may be toxic, so be sure any alfalfa you buy was harvested before the flowers opened.
Horsetail *(Equisetum arvense)*	Above-ground portions.	Anti-inflammatory, diuretic, astringent, anti-hemorrhagic, tonic, vulnerary (wound healing).	Herb stores; widely distributed in the wild.	Tincture or decoction	Contains a lot of silicon, a common element that is a primary building block in hair, nail, bone and connective tissue. Most forms of silicon cannot be digested and absorbed by the body, but horsetail contains one of the only known bioavailable sources of this common mineral element. Helps regenerate bone and connective tissue after injuries.	Do not use in hypertension or cardiac cases. Do not use during pregnancy. May irritate the urinary tract if used long-term. Pulls heavy metals and toxins from its environment, so do not gather it near road ways or from contaminated soil.
Yucca *(Yucca species)*	Root.	Anti-inflammatory, anti-rheumatic, cleansing.	Herb stores, easy to grow.	Tincture or powdered herb.	The *phytosterol* constituents in this plant serve as a general anti-inflammatory in the treatment of arthritis, hip dysplasia and joint injuries. They also aid absorption of nutrients in the small intestine, much like alfalfa.	Excessive, long-term use can have a reverse effect in the intestine, slowing the absorption of certain fat-soluble vitamins. Large doses irritate the stomach lining, causing nausea and vomiting.

IMMUNE SYSTEM

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Astragalus *(A. membranaceous)*	Root.	Adaptogen, immunostimulant.	Herb retailers.	Tincture or decoction.	Especially useful for strengthening the body against viral infections of the respiratory tract and heart by stimulating killer-cell activity and interferon production. Also strengthens with direct antibacterial and anti-inflammatory qualities. Might be a viable option for early treatment of respiratory infection, including kennel cough *(Bordetella bronchiseptica)*, a condition that theoretically involves bordetella's opportunistic cooperation with viruses.	*Astragalus membranaceous*, the medicinal variety of astragalus, is among the safest of medicinal herbs for humans and animals, many other species of astragalus are toxic, especially to grazing animals.
Cats' Claw *(Uncaria tomentosa)*	Root and vine inner bark.	Boosts autoimmune functions, anti-inflammatory, speeds healing, anti-tumor.	Wild-harvested from Peruvian rain forests; widely available in the market.	Extract.	Systemic support at the onset of bacterial, viral or fungal infections.	Current hot buzz in the herb market; growing concerns of over-harvesting and rain forest defoliation.
Echinacea *(E. angustifolia or E. purpurea)*	Roots and leaves (much weaker).	Immunostimulant, antiviral, antimicrobial, alterative, antibacterial, lymphatic, respiratory.	Seed catalogs, nurseries; easy to grow.	Tincture.	Boosts the body's defenses at the onset of infection.	Use organically grown echinacea, as wild stands (wildcrafted) are being wiped-out. Easy to grow in the garden. Use for short periods with breaks to avoid over-stimulating the immune system. Contraindicated in autoimmune diseases.
Garlic *(Allium sativuum)*	Bulbs (cloves); below ground portion.	Antibiotic, antitumor, antiparasitic, antifungal, nutritive, antimicrobial, digestive stimulant.	Grocery and health food stores.	Fresh cloves, dry powder, tincture.	Boosts the body's defenses against bacterial, viral or fungal infection; helps expel worms; antioxidant in the blood.	If fed continuously in excessive quantities, garlic can cause Heinz-body anemia, a potentially life-threatening blood disorder, in dogs and cats. This is easy to avoid by using common sense and moderation. Consult a holistic pet-care professional or follow manufacturer's recommendations when supplementing your animal's food with garlic.

LYMPH SYSTEM

Cleavers *(Gallium aparine)*	Above-ground parts.	Diuretic, alterative, anti-inflammatory, tonic, astringent.	Herb and health-food stores.	Fresh juice or fresh plant tincture.	Helps disperse and drain the lymph through inflamed or scarred tissues, which makes it a useful long-term tonic for ulcers, cysts, fibroid tumors and other conditions in which lymph blockage or congestion causes discomfort, dysfunction or abnormal tissue development.	Generally safe.
Calendula *(Calendula officinalis)*	Flowers.	Lymphatic tonic, bitter.	Herb and health-food stores.	Fresh juice or fresh plant tincture.	Calendula is a stronger version of cleavers, adding liver-stimulating bitter properties that help move lymph-carried waste out of the body more quickly. May be used to treat inflammation or ulceration of the digestive or urinary tracts, where it drains lymph-engorged tissues and reduces inflammation more quickly than cleavers.	Generally safe.

LIVER SYSTEM

Burdock *(Arctium lappa)*	Root.	Blood cleansing, liver stimulating, nutritive.	Health-food stores; seed from catalogs.	Tincture, infusion, fresh, grated root liberally added to your dog's food.	Used for thousands of years as a specific remedy for chronic skin problems, such as seborrhea and eczema. May also be useful for allergies or when environmental toxins or induced chemicals contribute to poor digestion, constipation, hair loss or excessive body odor; very nutritious.	Safe for long-term use; combines well with dandelion, red clover or alfalfa to treat chronic skin conditions. Beware of herbicides on wild plants.
Dandelion Root *(Taraxacum officinalis)*	Root.	Cholagogue, alterative, nutritive.	Herb retailers; a common garden weed.	Tincture, tea or add fresh or dried, chopped roots to food (1 teaspoon per pound of food fed).	Gently, safely stimulates the liver into an increased state of efficiency, which improves digestion and elimination of waste from the blood and body. Relieves the kidneys and immune system of excess burden.	Very safe and nutritious, but very large amounts may cause diarrhea or vomiting due to increased bile production from the liver. If this occurs, reduce the amount you are feeding or discontinue.
Milk Thistle *(Silybum marianum)*	Ripe seeds.	Tonic, nutritive, cholagogue, demulcent, antioxidant.	Herb catalogs, health-food stores.	Alcohol extract of the seed.	Use when the liver has been damaged or is at immediate risk of damage from leptospirosis, parvovirus, hepatitis, jaundice, pancreatitis and hypoglycemia, as well as during recovery from drug use or anesthesia.	May increase some liver enzymes if used when there is no ongoing stress to the liver. Can antidote Amanita mushroom poisoning when given early enough. Believed to slow liver functions if used excessively.

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Red Clover *(Trifolium pratense)*	Flowering tops.	Alterative, diuretic, nutritive, anti-tumor.	Seed catalogs, herb and health-food stores.	Infusion or tincture.	Useful for almost all debilitating diseases and cancer because of its reputation for building blood structure, supporting liver function and inhibiting tumor formation in the body.	Do not use in animals with clotting disorders or those with internal or external bleeding. Contains the compound *coumarin,* which has blood-thinning qualities.
Turmeric *(Curcuma longa)*	Roots.	Antibacterial, liver tonic, anti-parasitic, antitumor.	Herb store and supermarket.	Tincture or encapsulated.	Chronic constipation associated with poor liver function. Protects the liver against dameging toxins. May be useful against *giardia* and other parasites.	Use this herb sparingly; it is generally safe but very strong and may cause digestive upset if fed in excess. Studies at Rutgers University have shown that turmeric helps prevent tumor growth in animals.

NERVOUS SYSTEM

Bugleweed *(Lycopus americanus)*	All above-ground parts	Analgesic, sedative, hypothyroid.	Herb stores; widely distributed in the wild.	Tincture.	May be useful in animals with hyperthyroid conditions.	Do not use in animals with depressed thyroid function. Use only as directed by a trained practitioner.
Catnip *(Nepeta cataria)*	All above-ground parts.	Carminative, anti-spasmodic, mild sedative.	Health-food stores; seed from catalogs.	Tincture or tea.	A gentle carminative and antispasmodic that eases flatulence and stomach upsets. Acts as a mild sedative to help calm the nerves and promote restful sleep in most animals.	The leaves and stems are safe, however, the seeds may cause digestive upset.
Chamomile *(Matricaria chamomile)*	Flowering tops.	Sedative, anti-spasmodic, digestive, anti-inflammatory.	Health-food stores; seed from catalogs.	Tea.	The first herb to reach for to treat digestive upset arising from nervousness and hyper-excitability. Its mild sedative and antispasmodic qualities help ease the symptoms of asthma, allergies and bronchitis.	Those allergic to ragweed should avoid chamomile, otherwise it is very safe. A good choice for long-term applications.
Hops *(Humulus lupulus)*	Strobiles (flowers).	Sedative, digestive, bitter, astringent.	Herb catalogs,	Tincture or tea.	A good, reliable, all-purpose sedative that helps an anxious, pacing animal relax. Also aids digestion.	Deaths of dogs (especially Greyhounds) have been attributed to excessive consumption of spent hops that have been discarded after beer making. No toxicity has been noted from medicinal-quality preparations, but to play it safe, use hops only as directed by a professional and do not use it in Greyhounds.
Oatstraw *(Avena sativa)*	Seed and straw.	Tonic, nervine, antidepressant, nutritive, demulcent, vulnerary (wound healing).	Herb catalogs, health-food stores; widely distributed weed.	Tincture or tea.	Tonic and anti-inflammatory for epilepsy, twitching, tremors and paralysis. An excellent preventative and nutritive nerve tonic for older dogs.	Generally very safe. However, wild plants may have been sprayed with herbicide.
Rosemary *(Rosmarinus officinalis)*	Leaves, stems, flowers.	Antimicrobial, astringent, sedative, expels gas, circulatory stimulant.	Herb stores, supermarket; easy to grow.	Tea or tincture.	Very good for digestive disorders attributable to nervousness.	Safe. Similar in action to chamomile, but stronger.
St. John's Wort *(Hypericum perforatum)*	Flowering tops and leaves.	Anti-depressant, anti-inflammatory, astringent, diuretic, vulnerary,	Herb and health-food stores.	Tea, oil, tincture.	Our first-aid herb of choice for pain from nerve damage or impairment, such as burns, neuralgia, rheumatism, a slipped disc or a crushed toe tip. Used with some success as an alternative to Prozac to treat canine aggression disorders. However, this often amounts to just symptomatic suppression of a deep-seated nutritional or behavioral problem.	While adverse side effects from St. John's wort are rare, excessive use may result in a photosensitive rash, especially in white, short-haired animals with pink or light-colored skin.
Skullcap *(Scutellaria species)*	All aerial parts.	Nerve tonic, sedative, anti-spasmodic.	Seed catalogs, herb and health-food stores.	Tincture or tea.	Effective for general nervousness and excitability in dogs and cats and for any condition characterized by oversensitivity of the peripheral nerves. Relieves nervous tension related to pain or a traumatic experience. An antispasmodic in nervous irritations of the cerebrospinal system, such as sciatica or post-traumatic neuralgia. The first herb we consider for epilepsy, seizures, twitching or "ants-in-the-pants" restlessness.	Do not use in dogs with predisposed or existing liver disease.
Valerian *(Valeriana officinalis)*	Root and rhizome.	Sedative, anodyne (pain reliever), antispasmodic, carminative, hypotensive.	Herb and health-food stores.	Tincture.	Insomnia, nervous anxiety and to help the body relax while suffering from physical pain. Very useful for calming animals during thunderstorms, trips to the vet or groomer, or to help your companion rest after surgery. Sometimes helps reduce the frequency and severity of the seizures in epileptic animals. Animal studies have concluded that valerenic and valerenal acid work similarly to the drug pentobarbital, a central nervous system depressant often used as a anticonvulsive.	Do not give in large doses for long periods of time, as it may cause stomach upset or lethargy. May have reverse (stimulant) effects in up to 20 percent of subjects. If this happens, try skullcap or another alternative herb.

RESPIRATORY

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Coltsfoot *(Petasites species)*	Leaves and flowers.	Anti-spasmodic and anti-inflammatory expectorant.	Herb retailers.	Tincture or tea.	Eases the discomforts of respiratory infections that cause a dry cough or seemingly immobile accumulations of thick phlegm in the bronchi. Particularly useful for tracheobronchitis in dogs (specifically kennel cough), especially when combined with antiviral herbs, such as licorice.	Contains pyrrolizidine alkaloids (PA), a potentially toxic group of compounds that may lead to liver damage if ingested in excess amounts over extended periods. The PA content of coltsfoot is about one-third of that found in comfrey *(Symphytum sp.),* and most of it is in the plant's flowers, not the leaves and stems. The PA content of coltsfoot is really quite low. Nevertheless, it can be harmful if used in absence of common sense.
Eucalyptus *(Eucalyptus species)*	Leaves; essential oil.	Astringent, expectorant, anti-inflammatory, antibacterial.	Astringent, expectorant,	Herb retailers. Commercially available essential oil diluted in hot water.	An excellent respiratory decongestant and disinfectant when used as a steam inhalation. (Steep the leaves or oil in a potpourri pot or place a few drops of the essential oil with water in a vaporizer placed near Rover's bed.)	The concentrated oil is very strong and may cause contact dermatitis if used undiluted. Not for direct internal use.
Goldenrod *(Solidago species)*	Aerial parts of the flowering plant.	Astringent, kidney tonic, diuretic, anti-catarrhal.	Herb and health-food stores.	Tincture or infusion.	Reduces mucus secretions in the bronchi by decreasing inflammation of mucous membranes. The result: a more productive, less irritated cough. Good for kennel cough.	Do not use in animals with pre-existing kidney disease. Highly allergenic: Use with caution at first. Commonly sprayed with herbicides; do not gather from roadways or cultivated areas.
Goldenseal *(Hydrastis canadensis)*	Roots.	Antipathogenic, bitter, anticatarrhal, hepatic, stomachache, antiseptic, laxative.	Herb and health-food stores (organically grown).	Tincture or infusion.	For bronchial inflammation, especially one that is secondary to a bacterial infection. Use goldenseal in conjunction with echinacea, garlic and coltsfoot for kennel cough.	Please use only organically grown; it is compromised in the wild due to over-harvesting and habitat loss. In most instances, Oregon grape can be used in its place. Do not use goldenseal in the presence of low blood sugar, low blood pressure or during pregnancy; very bitter tasting.
Grindelia *(Grindelia squarrosa)*	Leaves and flowers.	Anti-spasmodic, expectorant, hypotensive.	Seed catalogs, herb retailers.	Tincture.	Stimulates mucus secretion and reduces inflammation in the upper respiratory tract, making a dry, hacking cough more productive. Sedative and antispasmodic activities add to its expectorant abilities and calm a spastic cough by relaxing the smooth muscles of the upper respiratory tract and dilating the bronchioles. Also relieves asthma in dogs and cats—especially when administered at the early onset of an attack.	Internal use may relax the heart muscle and decrease blood pressure. Therefore, grindelia may be contraindicated in animals with heart or other circulatory problems. Excessive doses are believed to cause renal irritation, so use may not be advisable in animals with renal failure or other kidney diseases.
Licorice *(Glycyrrhiza glabra, G. uralensis, G. lepidota)*	Root. demulcent, adrenal	Expectorant, alterative agent, anti-inflammatory, mild laxative, liver tonic.	Herb catalogs, health-food stores.	Tincture.	Works well at reducing inflammation in bronchitis. Also adds antiviral, antibacterial and soothing demulcent actions to a variety of other respiratory herbs, such as as mullein, coltsfoot and grindelia.	Not recommended for animals with high blood pressure or water retention problems. Contraindicated in animals with adrenal hyperactivity.
Marshmallow *(Althea officinalis)*	Root.	Demulcent (soothes and protects internal/external tissues), diuretic, nutritive, vulnerary (wound healing), antimicrobial.	Herb catalogs, herb retailers.	Low-alcohol tincture or tea.	Soothes upper respiratory irritations that are secondary to a dry, raspy cough.	May slow the absorption of some drugs. Use only low-alcohol tinctures; extracts that contain more than 20 percent alcohol may cause digestive upset in animals.
Mullein *(Verbascum thapsus)*	Leaves.	Demulcent, antitussive, anti-inflammatory, expectorant.	Herb retailers; a common wayside weed.	Tincture or tea.	Herb of choice to treat canine tracheobronchitis (kennel cough) and other respiratory distress in animals. A synergy of compounds actively inhibits reproduction of herpes simplex virus (HSV). This, combined with its antitussive and expectorant qualities, may be useful in treating canine herpes virus; (CHV). More study is needed to ascertain the effectiveness of mullein against HSV infections in animals, but the safety of this plant and its demonstrated ability to relieve many of the discomforts of these diseases justifies giving it a try.	The leaves are generally safe, but the seeds of this plant may be toxic if crushed and ingested. The flowers are high in *rotenone,* a substance that is deadly to aquatic life.

SKIN SYSTEM

Herb Name	Parts Used	Actions	Availability	Best Preparation	Specific Uses:	Cautions and Comments:
Aloe vera	Juice of inner pulp.	Soothes and protects internally/externally, speeds healing of injuries, antitumor.	Widely available; Easy to grow indoors or out (in all but northernmost climates).	Fresh, pressed juice.	Topical applications speed the healing of injuries and irritations of the skin.	Use only the juice of this plant. The latex layer that lies just beneath the skin of the fleshy leaves may cause severe digestive upset and uncontrollable diarrhea if ingested.
Calendula *(C. officinalis)*	Flowers.	Anti-inflammatory, astringent, speeds healing soothes skin and mucous membranes.	Herb retailers.	Infusion (water or oil), tincture, salve.	Use topically to heal wounds, burns, inflamed flea bites, chronic dermatitis and other irritations.	Combines well with St. John's wort, garlic oil, mullein or Oregon grape for topical use on injuries.
Chamomile *(Matricaria chamomile)*	Flowering tops.	Sedative, anti-spasmodic, digestive, vulnerary anti-inflammatory.	Health-food stores; seeds and plant from nurseries and catalogs; very easy to grow.	Infusion (tea).	The cooled tea is a good, soothing and healing skin rinse for itchy, inflamed skin conditions.	Those allergic to ragweed should avoid chamomile, otherwise it is very safe. A good choice for long-term applications.
Chaparral or creosote bush *(Larrea tridentata)*	Leaf and stem.	Antiseptic, vulnerary.	Herb stores; an abundant native in the desert southwest.	Decoction.	The cooled tea is a good skin wash for flea bites, fungal infections and other forms of acute dermatitis.	Safe for external use, but may cause liver damage if ingested in large quantities. The FDA has labeled this herb as unsafe for internal use.
Comfrey *(Symphytum officinale)*	Leaf.	Soothes and protects; speeds healing of skin.	Health-food stores; very easy to grow from nursery stock.	Infusion (oil or water), salves.	An excellent primary ingredient in healing salves, ointments and topically applied oil infusions. We like to use comfrey in combination with calendula and aloe.	Contains potentially carcinogenic alkaloids, so it is regarded as "unsafe for internal use" by the FDA. For open wounds or where infection is evident, combine with an antibacterial, such as Oregon grape.
Ginger *(Zingiber officinale)*	Root.	Vasodilator, soothes stomachache, circulatory tonic.	Supermarkets and herb stores.	Capsules, fresh root, dried powder.	Relieves nausea and motion sickness. Circulatory disorders.	Ginger is a carrier for other herbs and combines particularly well in expectorant formulations with herbs such as mullein, goldenrod and yarrow
Juniper *(Juniperis species)*	Berries, leaves.	Antimicrobial, astringent.easy to grow landscape shrub.	Herb stores, supermarket;	Cooled decoction (leaves and berries).	The antiseptic and astringent properties of the berries or leaves may help relieve itchiness and infections of the skin when applied topically as a cooled, diluted rinse.	The leaves are strongly astringent, so dilute all preparations.
Nettles *(Urtica dioica)*	Leaves, stems.	Tonic, nutritive, alterative, astringent, expectorant, diuretic, antihistamine.	Herb retailers; widely distributed in wild.	Cooled tea.	Nettle leaf tea is an excellent skin and coat rinse, which nourishes your animal's fur and provide symptomatic relief for itchy skin and flea bites.	Touching the live plant results in a painful, blistering sting. Thorough drying or cooking neutralizes the toxic constituents.
Pennyroyal *(Hedeoma pulegioides)*	Foliage.	Flea repellent; astringent.	Herb retailers, nurseries; easy to grow	Infusion (dried herb); greatly diluted oil, prepared powder.	The pulegone-containing volatile oil of this plant is well-known for its insecticidal and repellent qualities.	Avoid internal use, especially during pregnancy. The undiluted oil may cause contact dermatitis and should never be ingested.
Psyllium/ Plantain *(Plantago species)*	Seeds, seed heads, foliage, roots.	Soothes and protects tissues internally/externally; mildly astringent.	Herb retailers; widely distributed weeds. All species are useful.	Poultice of fresh or dried plant.	A leaf or root extract is useful for irritations of the skin and digestive tract. A leaf poultice is a soothing field application for insect bites and stings.	Suspect the presence of herbicides when harvesting.
St. John's Wort *(Hypericum perforatum)*	Flowering tops and leaves.	Anti-inflammatory, astringent, vulnerary, analgesic, antiseptic, nervine.	Herb and health-food stores.	Infusion, oil, or tincture.	One of nature's best healing agents for minor wounds and burns.	Use caution when taken internally in light-skinned, fair-haired subjects, due to possible photosensitivity; particularly in cows, horses and other large herbivores.

Glossary continued from page 24.

responses. In herbal medicine, this term specifically refers to the medicinal support of infection-fighting antibodies in the blood stream and overall tonification of the lymph system.

Infusion: A preparation made by pouring vegetable oil or boiling water over herbs and allowing it to steep; a tea.

Laxative: A substance that increases the frequency of bowel evacuation, generally through softening of fecal matter.

Lymph system: The system of the body responsible for the cleansing of tissues at the surface to cellular level and the production of various antibodies and white blood cells.

Lymphatic: Refers to the lymph system. A lymphatic tonic strengthens the function of the lymph system.

Medicinal Action: One of a variety of terms used to describe the effect an herb or other substance has on or in the body that may be considered therapeutic.

Mucilagenous: Containing mucilage, a sticky, oily substance often used in herbal medicine to sooth and protect irritated tissues. Mucilagenous herbs are generally used as emollients or demulcents.

Nephritic: Of or relating to the kidneys.

Nervine: Refers to substances that are tonic to the nervous system.

Ointment: Somewhere between a liquid extract and a salve. An ointment is a thickened herbal extract that is too loose to hold its form without a container.

Poultice: An herbal preparation made by mashing plant materials with a liquid (usually water) to form a wet paste.

Purgative: An extremely, perhaps violently, strong laxative with uncontrollable effect. Purgatives generally cause abdominal cramping and near-incontinent conditions. They are usually reserved by herbalists for use only in dire circumstances.

Salve: A preparation consisting of an herbal extract (usually an infusion or decoction) that has been thickened to the consistency of butter.

Saponin: A *glycoside* (soaplike) plant compound. Present in many species of plants, saponins are characterized by their soaplike nature.

Although many types of saponin have medicinally useful properties, many may also be irritating to the digestive tract and may cause toxic reactions if ingested.

Sedative: An action that calms the nerves to help a person or animal relax.

Stimulant: A general term used to describe the increase of functional activity.

Streptococcus: A genus of gram-positive, spherically shaped bacteria in microscopic chains. Most forms of Streptococcus are normally present and harmless in the body, while others, such as *S. pneumoniae* (bacterial pneumonia), are potentially deadly.

Tincture: An herbal preparation made by soaking plant material in a liquid solvent (called a *menstrum)* to extract active medicinal constituents. Commonly referred to as *herbal extracts,* tinctures may be made from menstrums of alcohol, glycerin or vinegar.

The type of menstrum used depends on the chemical and physical structure of the herb. Alcohol-based menstrums usually yield the strongest herb tinctures and have the longest shelf life.

Tonic: A general term for a nourishing substance that invigorates and increases the tone and strength of tissues and improves the function of one or more body systems.

Vasoconstrictor: Capable of tightening the walls of blood vessels. Opposite of *vasodilator.*

Vasodilator: Capable of dilating or widening blood vessels. Opposite of vasoconstrictor.

Vulnerary: Refers to actions that promote the healing of wounds.

TYPES OF HERBAL PREPARATIONS

The way an herb is used is determined by holistically assessing the circumstances and the overall nature of your dog. Once you have investigated what has caused the symptoms that caught your attention, you are in a better position to determine which bodily systems are affected and the medicinal actions you are looking for. This narrows down your choices to several herbs, from which we can choose one or more that affect the body systems involved. Once you determine which herb to use, you can decide which type of herbal preparation is best.

Dried Bulk Herbs: Dried bulk herbs are handy to have around because they can be prepared and applied in many diverse ways. In addition to being used in traditional herb preparations, you can also sprinkle some dried herbs directly onto your pet's food.

As a general rule, roots keep two to three times longer than dried leaf, but don't stock up on more than you can use in a year. Also, store your herbs in airtight containers away from sunlight. Even properly stored dried herbs eventually oxidize and lose their potency. A few herbs lose most of their medicinal and nutritive value within days of drying. Buy from an honest, knowledgeable herbalist who knows the origin of the merchandise, or grow your own to assure that you obtain herbs with optimum potency and shelf life.

Fresh Herbs: Fresh herbs, clipped, dug or plucked directly from the garden are rich in nutrients and medicinal constituents. If these fresh herbs can be prepared in the form you need, they are incomparable in terms of medicinal potency.

Each herb has specific seasons and forms that yield the most potency. Some are extremely strong when used fresh, while others require at least partial drying before they impart their active constituents into a usable medium.

Cascara sagrada bark, for example, is an herbal laxative that is far too strong if used fresh and should be dried for at least a full year to allow it to mellow before you use it. It also is poorly water soluble when fresh and won't infuse adequately in water for a good tea until it is dry.

Herb Capsules: Because of their short, fast digestive tracts, dogs and cats usually pass encapsulated herbs right through them. Even if the capsules don't merely pass through, you may find it difficult to get a large enough dose into your pet. In horses, sheep, llamas, goats and other herbivores, capsules work fine—but plan on feeding dozens of the capsules. In these animals, you are often better off feeding the bulk herb or using an extract.

Alcohol Extracts or Tinctures: With few exceptions, an alcohol tincture is by far the most versatile, strongest and readily usable form of herb preparation for animals. Using herb-specific procedures and proportions to get the most out of each herb, a tincture is prepared by soaking fresh or dried herb in alcohol and water. The alcohol acts as a solvent that breaks down the plant material and releases the active constituents into the liquid base, called a *menstruum.* After two days to two weeks (depending on the method of process) the menstruum is strained from the plant material (called the *marc),* to produce the finished, liquid product.

Alcohol tinctures offer maximum potency and unlimited shelf life (provided they are stored properly). The concentrated, liquid preparations quickly and completely absorb into the body, even in the short digestive tracts of dogs and cats. The problem with extracts is, again, getting it into the animal. Alcohol extracts are typically 30 to 70 percent grain alcohol, and while typical dosages are small and do not present any alcohol-toxicity problems, animals hate their taste. Alcohol tinctures may also be used topically, diluted in water or in an eye, hair or skin rinse.

Glycerin-Based Herb Extracts: Glycerin-based herb extracts, or *glycerites*, are made by essentially the same methods as an alcohol extract. However, vegetable glycerin is used instead of alcohol. The major advantage of glycerites in animal care is their palatability—glycerin tastes sweet, with a flavor and consistency similar to light corn syrup.

Some glycerin-based extracts are not as potent as their alcohol-based counterparts, but they are easier to administer to your pet in the first place; hence, half the battle is won. Any low potencies are usually adjusted for with a slightly higher dosage.

Glycerites do not keep indefinitely, but do remain viable for at least two years if refrigerated. Vegetable glycerin is refined from coconut oils, and despite its syrupy-sweet flavor, it is metabolized in a manner similar to a triglyceride; not a sugar, which means vegetable-glycerin-based extracts can be used safely in animals with alcohol sensitivity or diabetes.

Water Infusions: *Infusions*, or *herb teas*, are made by steeping plant material in hot water. The ratio of water to herb varies depending on the herb and how you are going to administer it.

An infusion is easy to make, however, the disadvantages of using teas internally for animals are obvious: Most animals don't like tea. Palates vary from critter to critter, though, and sometimes they'll drink it up. Infusions are especially useful as skin and coat rinses.

Decoctions: A *decoction* is an infusion that is gently simmered to make a strong enough preparation for therapeutic use. Decoctions are necessary for many roots or when the plant mate-

rial is too insoluble in water to create a strong enough infusion.

Prepare a decoction using a minimum of heat. Simmer the herb for about 15 minutes at a temperature that is only slightly boiling. Too much heat destroys many of the plant constituents that you wish to employ. Use the decoction in the same way as water infusions, but be aware that these are stronger than infusions.

Oil Infusions: An *oil infusion* pulls the herb's constituents into an oil base. Create an oil infusion by completely covering an herb with olive oil and allowing it to steep in a covered, non-metallic container in a warm location for at least one month. Then press out the oil and store it in the refrigerator for up to one year. (Discard the remaining plant material.)

Although several types of oil can be used, olive oil has preservative qualities and it is relatively affordable and nourishing to the body—internally and externally. Oil infusions are excellent for topical applications, soothing and protecting the affected area while holding the herb constituents at the site applied.

Poultices: A *poultice* is made by mashing plant material (usually dried foliage) with enough water or vegetable oil to make a wet, pesto-like paste. Poultices are very good in topical field applications, where other preparations may be impossible.

Salves and Ointments: *Salves* and *ointments* are simply thickened oil infusions. Beeswax is often used to thicken the oil into a salve, whereas coconut butter is typically used to to make a thinner ointment—particularly if it is to be used as a suppository. The oil infusion is gently heated, and the beeswax or coconut butter is melted into the liquid until the cooled product yields the desired consistency.

Fomentations: A *fomentation* is used topically, when a water or oil infusion must remain on a specific body site for a while. Place gauze or another cloth over the injured area and pour the infusion onto the dressing, soaking it thoroughly. Mustard packs and castor oil packs are fomentations. A fomentation is good for horses with fungal infections of the skin and animals that don't mind wearing an herbal ornament for awhile.

LEARN YOUR ALTERNATIVES

One reason nature offers so much botanical diversity is to provide alternatives for nutrition and medicine. If you can't obtain a specific herb, an effective alternative may be as close as your backyard.

By knowing of an alternative for each herb used, you can contribute to the survival of plants that may have become threatened by overharvesting. For example, you can substitute the common Oregon grape for the endangered goldenseal—both have similar actions and affinities.

ALWAYS TEST FOR ALLERGIES FIRST!

Before using any form of plant medicine, it's good common sense to find out if your animal is allergic to it first. Allergic reactions may range from itchy skin, watery eyes, sneezing and rashes to possibly fatal anaphylactic shock. Rub a small quantity of the herb preparation you are testing on your pet's skin and watch for reddening, itching or other warning signs before you use the herb. Then, if no adverse reactions occur, use just a small initial dose and watch for results again. **ND**

Gregory Tilford and Mary Wulff-Tilford are co-owners of Animals' Apawthecary.

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Twelve fabulous picks for gardening pet owners.

Plant an Herb Garden for Pets

By Karen Dale Dustman

Lavendar

There's a certain gardening madness that seems to strike as days get longer and the mercury begins to rise. Green thumbs forced to languish through the cold winter months begin to itch in anticipation of muddy pleasures soon to come. And even the most confirmed couch potato may be caught riffling through seed catalogs and casting longing glances at a patch of backyard dirt.

Planning an herb garden is a wonderful way to welcome spring—and to help keep you and your pets healthier throughout the coming year. One major advantage to home-grown herbs is freshness. You'll also have the security of knowing that your herbs haven't been chemically treated, although most commercially available products from reputable sources today are also chemical-free.

Best of all, you'll have the joy of watching your garden—and your knowledge—grow. "I think it's almost a religious calling these days to take responsibility for your own and your animal's health," said Donna Starita Mehan, D.V.M., a holistic veterinarian in Boring, Oregon. "You never know when there's going to come a time when you may not be able to refer to someone else for help. And isn't it empowering to know you can go back to the

ILLUSTRATIONS BY JILL RAPPAPORT

earth and ask what the animal needs, and know that it will be supplied?"

A basic herb garden doesn't need to be large—a plot 3 feet wide by 20 feet long will give you room enough for a good beginning. Be sure the area is well-drained—most herbs don't like to keep their "feet wet." Plenty of sunlight is important, too; herbs generally need a minimum of five hours of full sun a day. Add a little mulch to prepare the bed if you like, but most herbs—like the weeds they are—do surprisingly well in even poor soil. Excessive fertilization may even reduce the quality of the active ingredients in some herb, experts caution.

As you plan your garden lay-out, be sure to separate annuals (plants with a one-year life span, which you'll need to re-plant every year) from perennials (those that will be left to "come back" on their own). In general, you'll want to harvest leaves just before flower buds open; roots in the autumn; and bark in late spring.

Don't forget that some of the most useful herbs in your garden may be varieties you didn't plant. "A lot of the things people are pulling out from between their flower beds are useful," notes herbalist Gregory Tilford. "Dandelion, mullein and other 'weeds' were originally brought [to North America] either as medicine or as food, but now are forgotten or scorned. [But] organically grown dandelion greens are now $3.50 a pound in the health food store."

While most herbs are considered safe for pets, the key is moderation—and common sense. Herbs, of course, are not a substitute for the professional care of a licensed veterinarian. Always consult your veterinarian if you suspect a serious health problem, and before administering an herbal remedy to any animal with a pre-existing condition.

Here are 12 easy-to-grow, medicinal herbs that you and your pets will find useful.

(Watch for artcles from herbalist Greg Tilford on echinacea and garlic in future issues of Natural Pet.)

1. Catnip:

(Nepeta cataria)

Herbal Uses: Somewhat similar to peppermint and chamomile, catnip is soothing for the digestive tract and nervous stress. It also promotes sweating, which helps cool fevers. And, of course, your cats will love the scent!

Growing Tips: A hardy, herbaceous *perennial*, catnip—like others in the mint family—can be invasive. It needs plenty of sunshine, little or no fertilizer, and prefers a sandy, well-drained soil. Start from seed or buy it in starter sets. Plants grow 2 to 3 feet tall. Although plants are disease- and insect-resistant, you'll need to protect them from any nearby cats! If any leaves are bruised, the enticing aroma will exert its seductive influence on any cats in the area. Pick leaves in the morning after the dew has dried. Harvest new growth every month or so to promote regrowth. Don't let plants go to seed or you may have a garden full of catnip the following year.

Parts Used: Fresh or dried leaves can be mixed with the animal's food. Catnip tea can also be squirted into the animal's mouth or onto food.

Calendula

Cautions: Avoid administering to pregnant animals. The plants will attract bees.

2. Chamomile

(Roman: *Chamaemelum nobile;* German: *Matricaria recutita)*

Herbal Uses: One of the nine herbs considered sacred by the Anglo-Saxons, chamomile is soothing to the digestive tract, and mildly sedative or calming. It's good for nervousness and allergies, and helps prevent colic in horses. As a topical treatment, it reduces swelling and soothes irritated skin.

Growing Tips: Self-seeding German chamomile, considered the best for tea, is an *annual*, up to 20 inches tall. It grows well throughout the United States. Plant in early spring and harvest throughout the summer. Roman chamomile, a *perennial*, is cold-hardy but won't tolerate high summer heat. You can plant chamomile in the spring or fall. This variety can be mowed into an evergreen lawn. Some horse owners plant an entire pasture for tasty grazing.

Parts Used: Flowers are used to make a tea. A strong infusion may also be applied topically as an astringent or eyewash. Commercial preparations are available as a tincture, lotion, ointment or cream.

Cautions: Although considered one of the safest herbs, the essential oil should not be used during pregnancy as it can stimulate the uterus. Chamomile may also cause contact dermatitis.

3. Comfrey

(Symphytum officinale)

Herbal Uses: Familiarly known as "knitbone," comfrey is a good source of calcium and protein, and it helps rebuild bone, cartilage and muscle. Comfrey is used as a poultice for broken bones or crushed and lacerated tissues, sprains, or slow-healing sores. It reduces swelling and may help reduce formation of scar tissue. As a blood cleanser, it is sometimes used to heal ulcers, colitis, kidney problems and arthritis. It is also used as a cough remedy.

Growing Tips: A *perennial*, comfrey likes rich, moist soil and plenty of sun. Plants grow 2- to 3-feet tall. Some gardeners report poor germination rates from seed. Plant it in the spring. Once established, comfrey grows readily and may even choke out smaller plants. Harvest leaves in the summer; roots in autumn.

Parts Used: The leaves and roots are most commonly used, both fresh and dried. Use fresh comfrey leaves as a poultice. (It is considered especially good for old wounds that won't heal). A tincture or dried, crushed leaves may be given with food. Leaves and flowers may also be made into an ointment or applied as a topical oil to treat

sprains and arthritis.

Caution: Use caution when administering it orally. Comfrey contains pyrrolizidine alkaloids, which can be damaging to the liver if consumed in high quantities. Also, because comfrey promotes rapid healing, wounds should be thoroughly cleaned before applying it topically.

4. Echinacea:

(E. purpurea or E. angustifolia)

Herbal Uses: Native to the U.S. and widely used by the Plains Indians, echinacea has antiviral, antibacterial and antifungal properties. May also be helpful against allergies and tumors. Used topically as a poultice, echinacea helps prevent infection in wounds, sores and burns, and it stimulates healing. It is also useful for snake and spider bites, eczema and boils. German studies suggest echinacea may also be useful in treating arthritis and for certain cancers.

Growing Tips: A hardy, herbaceous *perennial*, echinacea can tolerate summer heat and poor soil and does well in most gardens. It prefers full sun; do not over-water. Grows up to 2-feet tall and bears beautiful purple, daisy-like flowers. Seed may need to be cold-stratified in warmer climates. Plant it in the fall or very early spring, and cover with one-quarter inch sifted compost or potting soil. Experts recommend waiting at least four years before harvesting the roots, but ecologically minded gardeners may find it worth the trouble to plant and wait; *E. angustifolia* is reportedly being overharvested in the wild.

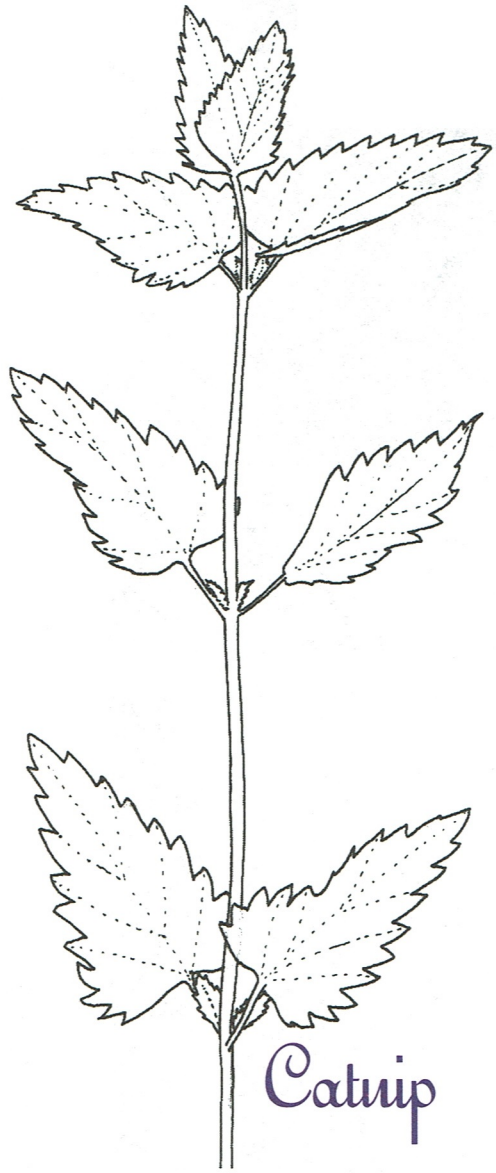
Parts Used: The root is used to make a tea, or can be dried, powdered and administered in capsule form. Flowers are also sometimes used. Some herbalists also use echinacea in tincture form.

Cautions: Give at the first onset of symptoms, and use for no more than two weeks at a time; echinacea loses its effectiveness if taken daily. Should not be used for animals with pre-existing autoimmune deficiencies. Extremely high doses may cause nausea or dizziness.

5. Feverfew

(Tanacetum parthenium)

Herbal Uses: A traditional remedy for migraine headaches in humans, feverfew has analgesic (painkilling) properties. Because it doesn't contain salicylic acid, it can be particularly useful in cats. It helps lower blood pressure, relieves indigestion, is antispasmodic. The flowers are also high in pyrethrin, a paralytic agent against fleas. Despite its name, though, feverfew is *not* effective against fevers.



Catnip

Growing Tips: Semi-hardy, self-seeding *perennial.* Plant root cuttings when the temperature reaches 70 degrees, or start seeds indoors. Space the seedlings about 18 inches apart. Feverfew prefers partial shade. Plants grow 18-inches to 3-feet tall. A distant relative of the sunflower, this herb produces tiny daisy-like blossoms. To promote fullness, pinch back the flowering buds. Harvest leaves throughout the summer as they mature. It also makes a good winter houseplant for a sunny window.

Parts Used: Flowers and leaves. The leaves may be given raw or made into an infusion. Infused flowers are also useful as a wash against fleas. (Note: Pyrethrins paralyze rather than kill fleas. While fleas fall off the animal, additional flea-control measures are needed for the environment.)

Cautions: Feverfew is contraindicated in pregnancy, or for animals with clotting problems. Juice from raw leaves may irritate the lips and tongue. Bees dislike this plant, so avoid planting near vegetables or fruit trees that require pollination.

6. Garlic

(Allium sativum)

Herbal Uses: With more than 200 biologically active constituents, garlic is a wonderful addition to any herb garden. In addition to its natural antibiotic properties, garlic is beneficial to the immune system, useful in arthritis, helps balance microflora in the bowel and lowers cholesterol levels and blood pressure, reducing risk of blood clots and stroke. It may also help control diabetes by lowering blood-sugar levels. An antiparasitic, it helps control worms, fungus, mange, fleas and ear parasites.

Growing Tips: *Perennial.* Bulbs can be planted in early spring, but for the best development set them out in the fall. Plants grow to a height of about 12 inches. Harvest leaves in early summer; bulbs in late summer. Propagate by splitting bulbs into cloves for planting.

Parts Used: Cloves from the bulb can be given raw, or dried and powdered. A dried preparation is generally preferred for cardiac and musculoskeletal purposes; raw garlic is considered a better antimicrobial. Add ¼ clove to 2 whole raw cloves to your pet's food, depending upon the size of the pet.

Cautions: May cause stomach upset. Do not give to nursing mothers; it may flavor the milk and can cause colic in babies. Do not give to animals with clotting disorders.

7. Lavender

(Lavandula angustifolia or L. spica)

Herbal Uses: While lavender is best known for its calming scent, a mild infusion may also be used as an antiseptic for cuts, burns and stings.

Growing Tips: This *perennial* shrub prefers well-drained soil and full sun. Lavender grows 3-feet tall and spreads 3-feet wide; do not crowd plants. It is possible to start lavendar from seed in fall or early spring, but you may have better luck with starter plants. Clip it frequently to induce bushiness. Harvest the flowers when its petals begin to fade; hang to dry in small bunches inside a paper bag to collect flowers. In colder climates, the top of the plant may die back; otherwise it is evergreen.

Parts Used: Flowers. A medicine bag filled with dried lavender flowers may be hung around an animal's neck as a nerve tonic. A mild infusion (1 teaspoon buds to 1 pint of water) may be used externally as an antiseptic wash.

Cautions: Although lavender has been used in European folk medicine as a worming remedy for children, do not give internally without supervision of your veterinarian.

8. Pot Marigold

(Calendula officinalis)

Herbal Uses: Antiseptic and anti-bacterial, topical applications of pot marigold are useful for bruises, scrapes, burns and stings. It reduces inflammation and aids healing of skin. Pot marigold also stimulates the production of bile, and helps regulate liver function.

Growing Tips: Plant seeds one-half inch deep; plants grow 1- to 3-feet tall. The first blooms arrive six to eight weeks after germination, and continue for several months. Marigold prefers cool weather and full sun. It is an *annual*, but will re-seed itself. Harvest the flowers regularly to encourage more blooms.

Parts Used: Flowers are used topically in a compress, poultice or ointment; a tincture or infusion is used for liver and gastric conditions.

Cautions: Do not give to pregnant animals. Also do not confuse with the common ornamental French Marigold *(Tagetes patula)*.

9. Marshmallow

(Althaea officinalis)

Herbal Uses: Once used to make a medicinal confection, marshmallow is high in mucilage, which is considered soothing and coating for the digestive tract. It is good for chronic constipation and urinary or digestive tract irritations, and soothes coughs and sore throats. Marshmallow is useful in conjunction with other diuretics to help the release of kidney stones. A poultice or ointment may be used for cuts and abrasions.

Growing Tips: A hardy 4- to 5-foot tall upright perennial that is related to the hollyhock, marshmallow favors rich, moist soil and full sun. Plant from seed or cuttings in the fall; thin to 2 feet apart. Harvest roots in the fall or winter when the plants are at least two years old. Clean, peel and chop to dry.

Parts Used: Both roots and leaves are used medicinally, although the root has higher mucilage content. The root is used as a poultice for wounds, boils and burns, or it is given as an infusion for stomach ulcers and cystitis. The leaves may be used as expectorant for coughs and as a urinary system remedy, and they also make a tasty vegetable.

Cautions:

10. Valerian

(Valeriana officinalis)

Herbal Uses: A sedative sometimes called a "natural valium," valerian is a muscle relaxant and antispasmodic. It is useful for animals with epilepsy, nervousness, circulatory problems, and muscle cramps. Valerian may lower blood pressure. Animals in the wild forage on the tops of this plant, and cats may do likewise.

Growing Tips: A herbaceous *perennial*, valerian is creeping and self-seeding. Flower stalks may reach 4 to 6 feet. It grows best in average soil in sunny areas. Look for starter plant (seeds may be more difficult to find). Harvest the root in the fall, when it is dormant, after the second year of growth.

Parts Used: Roots are used as teas, tinctures and extracts. Recent research indicates this herb should be administered in small, frequent doses over a period of several days for maximum effectiveness.

Cautions: The roots have an unpleasant taste and odor. Avoid high doses, and do not administer for more than two to three weeks at a time. The saponin content of this plant can cause stomach upset and may induce vomiting if used excessively. It also can cause heart palpitations.

Wormwood

11. Wormwood

(Artemesia absinthium)

Herbal Uses: One of the oldest known medicinal plants, wormwood (as its name implies) has historically been used to treat parasitic worms. It is good for diabetes, female complaints and some liver conditions (bile stimulant). It is also used to bring down fevers.

Topically, wormwood is useful as a flea repellent.

Growing Tips: *Perennial;* wormwood tolerates sun and wind, but it requires good drainage. Harvest it in late summer while the tops of the plants are flowering.

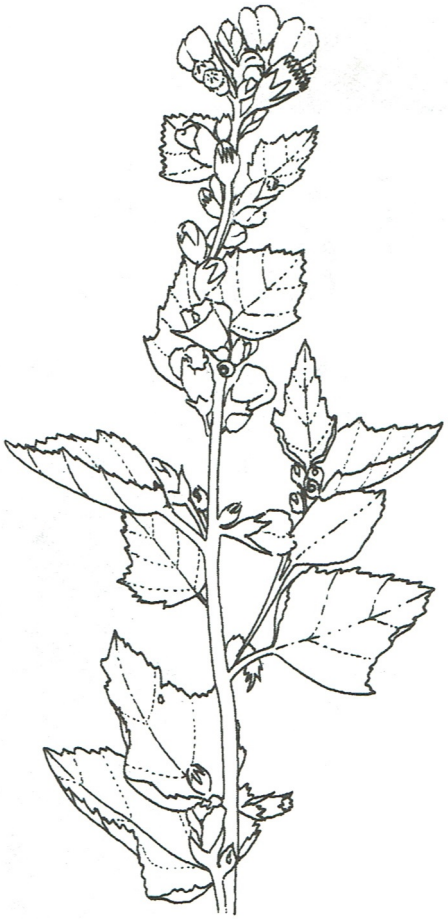
Parts Used: Flowering tops and leaves may be prepared as a weak infusion, or as a wash for fleas.

Cautions: Wormwood was a key ingredient in the notoriously dangerous liqueur absinthe. Some herbalists advise against any internal use, as it can damage the liver and cause digestive imbalances. Excessive doses may also overstimulate the heart. Do not give to pregnant or nursing animals. Do not give to very young animals without the supervision of your veterinarian.

12. Yarrow

(Achillea millefolium)

Herbal Uses: Yarrow is an excellent fever reducer and diuretic. Its high tannic acid content helps stop bleeding and hemorrhaging and acts as a local anaesthetic. Yarrow is soothing for nervous conditions, and is anti-inflammatory.



Marshmallow

Growing Tips: This hardy *perennial* grows wild along roadsides in much of the United States; plants stand 3-feet tall and spread 2- to 4-feet wide. Yarrow likes full sun and will tolerate almost any soil. You can start it from seeds or plants; look for Common yarrow *(achillea millefolium)*, rather than the ornamental varieties bred for their larger, showier flowers. Runners can be invasive; to keep confined, you may want to dig plants every one to two years and replant selectively.

Parts Used: Leaves and flowers. Harvest the plants while they are flowering. Crush and apply directly to minor scratches or cuts, or use in a poultice or compress.

Cautions: Yarrow interferes with the absorption of iron. Do not use with pregnant animals, as it contains a uterine stimulant. It may also cause allergic rashes in rare cases. **NP**

Karen Dale Dustman is a Southern Californiabased freelance writer.

NOTE: A special thank you to Donna Starita Mehan, D.V.M., Rob Silver, D.V.M., and herbalist Gregory Tilford for their kind assistance in the preparation of this article.

Sources

If you can't find a particular herb at your neighborhood nursery, you might try ordering seeds and planting sets by mail. The following are only a few of the many mail-order nurseries nationwide that carry extensive selections of herbs. Some companies charge for their catalog, so be sure to call or write ahead.

J.L. Hudson, Seedsman
P.O. Box 1058
Redwood City, CA 94064
(catalog requests only)
or
Star Route 2, Box 337
La Honda, CA 94020
(orders & other correspondence)

Mountain Rose Herbs
P.O. Box 2000
Redway, CA 95560
(800) 879-3337

Mountain Valley Growers
38325 Pepperweed Rd.
Squaw Valley, CA 93675
(209) 338-2775

Sandy Mush Herb Nursery
316 Surrett Cove Rd.
Leicester, NC 28748-9622
(704) 683-2014

Weiss Brothers Perennial Nursery
11690 Colfax Hwy.
Grass Valley CA 95945
(916) 272-7657

The Internet is also a great source of gardening information. One well-organized collection that identifies more than 1,600 gardening catalogs is:

Cyndi's List of Gardening Catalogs at http://www.cog.brown.edu/gardening/

Common Household Poisonings in Dogs and Cats

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Poisoning, whether real or imagined, is a common source of fear for most pet owners. Knowledge about potentially poisonous substances commonly found around the home is crucial in attempting to prevent intoxication of pets. However, because accidental or inadvertent exposure does occur, having a good understanding of the general principles behind the therapy for the poisoned patient is also important. This article provides an overview of toxicologic principles and their application in veterinary medicine as well as specific examples of common small animal poisonings.

ROUTE OF EXPOSURE

Animals can be exposed to toxins in a variety of ways. Most frequently, exposure is accidental. For example, a pet may gain access to a poisonous product left unattended, or the owner may not realize the toxic potential of the product. Occasionally, pets are exposed to toxic levels of a therapeutic medication or have unexpected reactions to such a substance. Rarely, poisonings may be of malicious nature.

Oral exposure to the poison is most common. Dogs, and in particular puppies, tend to be indiscriminate in their eating habits. However, pets may also be exposed to toxins topically (e.g., with flea control products), by injections given by the owner or veterinarian, by inhalation of gases like carbon monoxide, or by eye exposure to a variety of chemicals.

SIGNS OF INTOXICATION

The signs of poisoning vary according to the toxin. Additionally, most poisonings cause signs that also occur with other disease processes. For example, vomiting may be a sign of poisoning but more commonly represents non–poison-induced illness. Some poisons have more specific signs, such as neurologic problems or blood abnormalities, or produce characteristic odors or signs, such as oral ulcers or brown mucous membranes.

In general, animal poisonings can be subdivided in-

DEFINITIONS

hyperthermia—*elevated body temperature (such as resulting from seizures)*
intoxication—*any symptoms resulting from exposure to a poison*
metabolism—*the processes by which the body performs daily functions, including the removal of harmful substances*
poison—*any substance that can have an injurious effect on an animal*
toxin—*see* poison

KEY FACTS

- Many products used in and around the home can be poisonous to cats and dogs; therefore it is important to know which products are toxic to pets and what signs are associated with their ingestion.
- Owners can accidentally poison their pets by giving them substances such as acetaminophen or chocolate.
- For an animal that has been poisoned, the best prognosis for recovery is when prompt medical attention is sought. When the poisonous substance is known, the container should also be taken to the veterinarian.

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owners often administer acetaminophen to their cats because of the product's reputation for safety in humans. However, cats lack the specific liver enzymes required to metabolize acetaminophen, and, as a result, toxic products form in the body. Clinical signs associated with acetaminophen poisoning, which may be noticed with ingestion of as little as 20 mg of acetaminophen per pound of body weight, include cyanosis (blue color of the mucous membranes), methemoglobinemia (brown blood that is incapable of carrying oxygen), respiratory distress, and extreme weakness. The face and paws of affected cats may swell. Both cats and dogs may develop acute liver failure following exposure to acetaminophen.

Both cats and dogs may develop acute liver failure following exposure to acetaminophen.

Treatment for acetaminophen-poisoned cats includes limiting absorption if exposure has been recent (less than 2 hours), supporting cardiovascular and respiratory function, facilitating the transfer of methemoglobin back to the functional hemoglobin, and promoting the excretion of reactive metabolites. N-acetylcysteine is an effective therapeutic agent for acetaminophen intoxication. It helps reduce methemoglobin to hemoglobin and also binds to the reactive metabolites and promotes their excretion. The prognosis for cats that are treated early and effectively is good.

Antifreeze

Antifreeze (ethylene glycol) is another common household toxin that can cause life-threatening poisoning in both cats and dogs. Antifreeze apparently tastes good to dogs and cats, and they will drink it voluntarily if given a chance. As little as 1½ teaspoons (7.5 ml) can be deadly to an 11 pound cat, and a dog can be fatally poisoned by consumption of 3 ml per pound. Antifreeze is rapidly absorbed from the intestines. Interestingly, the antifreeze itself is not terribly poisonous to animals, but the metabolites created in the liver are very toxic. Antifreeze is transformed into glycoaldehyde glycolic acid, glyoxylic acid, oxalic acid, and other compounds.

Clinical signs of antifreeze poisoning are commonly divided into two groups. The first group of signs appears within the first 2 to 3 hours following ingestion and include the development of incoordination and excessive water consumption. Pets may appear "drunk." The second phase of poisoning includes the development of severe depression and/or seizures, vomiting, metabolic acidosis, and complete renal failure.

As little as 1½ teaspoons (7.5 ml) of antifreeze can be deadly to an 11 pound cat, and a dog can be fatally poisoned by consumption of 3 ml per pound.

Diagnosis of antifreeze poisoning can be easy if consumption was observed, but more frequently owners are unaware of exposure and the poisoned pets are presented to the veterinary hospital with severe clinical signs. In the latter case a diagnosis of antifreeze poisoning can be made by several methods, and there are specific results of blood tests and urinalyses that indicate antifreeze poisoning.

Appropriate treatment depends on the amount of time that has elapsed since exposure to the antifreeze. In pets that present for treatment shortly after exposure to the antifreeze, therapy with ethyl alcohol can redirect the liver's metabolism away from the toxic by-products. This method of therapy is effective because the ethyl alcohol and the antifreeze are both metabolized by the same pathway in the liver (via an enzyme called *alcohol dehydrogenase).* This enzyme preferentially will metabolize ethyl alcohol and thereby let the antifreeze be excreted unchanged (and nontoxically) by the kidneys. For this treatment to be effective, it must be started early, before the antifreeze has been converted into its toxic by-products. In dogs and cats in which antifreeze toxicity is not detected until their kidneys have failed, there is no conventional therapy that is effective in preventing death.

Chocolate

Chocolate toxicity is another common household poisoning in dogs. Baker's chocolate is more toxic than milk or dark chocolate. A toxic dose of chocolate is about one ounce per pound of milk chocolate or one tenth this amount for baker's chocolate. Generally, poisonings are a result of a dog's gluttony. The toxic signs following chocolate ingestion are a result of the active ingredient theobromine.

Chocolate toxicity is another common household poisoning in dogs.

Theobromine is similar to caffeine and causes stimulation in the brain and heart through several different mechanisms. Clinical signs of chocolate toxicity include vomiting and diarrhea, increased urine production, restlessness and hyperactivity, cardiac arrhythmias, and possibly seizures. Therapy for chocolate toxicity involves limiting further absorption, intravenous fluid therapy, and careful monitoring for development of cardiac arrhythmias or seizures. Cardiac arrhythmias may require therapy with antiarrhythmic agents. Seizures or extreme agitation may be treated with diazepam. The prognosis for most dogs with chocolate toxicity is good with appropriate supportive care.

Flea Control Products

Flea control products are a very common source of poisoning in dogs and cats. Poisonings usually occur in the late summer. Cats and young animals are more likely to have clinical signs following the application of flea control products. The active ingredient in a flea control product varies, so information provided on the container is very important in selecting appropriate therapy. Commonly used products include carbamates, organophosphates, and pyrethrins.

The clinical signs, therapy, and prognosis vary depending on the active ingredient. Carbamates and organophosphates act as insecticides by blocking the normal communication between cells. The signs seen with carbamates and organophosphates vary depending on the specific product and the amount absorbed and may include excessive salivation, gastrointestinal distress, respiratory distress, weakness, and possibly seizures. Certain products have unique characteristics. For example, chlorpyrifos toxicity may produce a delayed neurotoxicity. Carbamate or organophosphate toxicity is most frequently a result of topical exposure and therefore bathing the animal promptly and thoroughly is the first line of therapy. It is important to remember not to use a flea shampoo. If a pet is showing severe signs of intoxication it may be necessary for a veterinarian to administer atropine to treat clinical signs. Protopam (2-PAM) may also be used in organophosphate exposures accompanied by severe clinical signs. Severity of carbamate and organophosphate intoxication may range from almost inapparent to life threatening.

Pyrethrins are another group of widely used insecticides for flea control. Clinical signs of toxicity are most common in the cat and may include hypersensitivity to the environment, tremors, incoordination, and salivation. With pyrethrin toxicity, washing the pet is again the most important step, followed by supportive care as needed for recovery. Deaths are uncommon with pyrethrin toxicity.

Ivermectin

Ivermectin toxicity can be seen in dogs. Ivermectin is widely used as a worming medication for horses and cattle and may inadvertently be given to dogs at toxic doses. In addition, collies and collie-like dogs are well known for their hypersensitivity to ivermectin. Signs of toxicity may include depression, incoordination, and possibly coma following a known exposure to ivermectin. No specific antidotes exist, and affected animals may take weeks to recover.

Nonsteroidal Antiinflammatory Drugs

Nonsteroidal antiinflammatory drugs (NSAIDs) are another common household poisoning in dogs. NSAIDs include agents such as aspirin, ibuprofen, ketoprofen, naproxen, and phenylbutazone. Exposure may be either accidental or therapeutic (as in the older dog with arthritis). Clinical signs of NSAID toxicity may include vomiting (possibly bloody) and diarrhea. NSAIDs may cause gastrointestinal ulcers and bleeding that may be life threatening.

Additionally, NSAIDs are capable of causing acute renal failure by decreasing the blood flow to the kidneys. Therapy for NSAID toxicity includes supportive care with appropriate fluid therapy and gastrointestinal protectants. Occasionally, transfusions or even surgery

The active ingredient in a flea control product varies, so information provided on the container is very important in selecting appropriate therapy.

Collies and collie-like dogs are well known for their hypersensitivity to ivermectin.

In older pets that regularly receive NSAIDs for arthritis, it is important to watch carefully for early signs of gastrointestinal disease, such as decreased appetite, vomiting, and darkening of the stools.

may be necessary for a patient with ulcers. In older pets that regularly receive NSAIDs for arthritis, it is important to watch carefully for early signs of gastrointestinal disease, such as decreased appetite, vomiting (with or without blood), and darkening of the stools (which could indicate intestinal bleeding).

Rat Poison

Dogs are also frequently poisoned with rat poisons. Rat and mouse poisons most commonly work by preventing the liver from making certain blood clotting factors. These poisons are called *anticoagulant rodenticides* and include products such as warfarin and brodifacoum. Vitamin K supplies the liver with the necessary substrates to manufacture active clotting factors and therefore acts as an antidote to poisonings with these anticoagulant rodenticides. Because the body has a store of clotting factors already produced, clinical signs of bleeding are typically delayed 2 to 5 days after ingestion.

If consumption is recent, induction of vomiting and administration of activated charcoal are indicated. After this is accomplished, the pet may be given prophylactic vitamin K or a clotting evaluation may be performed in 2 days to determine whether sufficient rodenticide was absorbed to warrant therapy. Therapy may need to continue for as long as 4 to 6 weeks depending on which rodenticide was ingested. It is essential to complete the prescribed course of vitamin K, even though the pet appears normal, or severe bleeding could result.

Occasionally, consumption of the rodenticide is neither witnessed nor discovered in a timely fashion; in these cases a pet may develop life-threatening bleeding into a variety of places, most commonly the chest cavity, lungs, and subcutaneous tissues. Rapid therapy is required and includes transfusions of fresh whole blood or fresh frozen plasma to replace clotting factors and prevent death.

Rat and mouse poisons most commonly work by preventing the liver from making certain blood clotting factors.

Snail Bait

Snail bait (metaldehyde) is another common poisoning in certain geographic areas. The method of action in mammals is not clearly understood. Clinical signs in dogs will occur within 3 hours of exposure and include vomiting, muscle tremors and convulsions, rapid heart rate, and high body temperature. Liver failure may develop in 2 to 3 days as well. Therapy involves supportive care. Diazepam, in conjunction with careful monitoring of respiratory and cardiovascular function, may be used to control the convulsions. Hyperthermia should be treated by controlling the convulsions and providing intravenous fluids. The prognosis is usually good with supportive care.

Clinical signs of snail bait poisoning include vomiting, muscle tremors and convulsions, rapid heart rate, and high body temperature.

Zinc

Zinc toxicity may occur in small animals. Exposure most often is a result of swallowing pennies minted after 1982 but may also occur via consumption of zinc oxide ointment or other sources of zinc in the environment. The primary clinical sign of zinc toxicity is an intravascular hemolytic anemia (or low red blood cell count from the destruction of red blood cells in the circulation), although the gastrointestinal tract and kidneys can also be affected. Supportive care, including blood transfusions as needed, is essential. Additionally, surgery may be necessary to remove pennies from the intestines to prevent further absorption of zinc. The prognosis is fair if poisoned animals are treated rapidly and effectively.

Zinc toxicity most often is a result of swallowing pennies minted after 1982.

CONCLUSIONS

Poisonings can occur in dogs and cats. An astute owner is aware of changes in the environment as well as early changes in a pet's behavior, appetite, and attitude. An appropriate history of exposure and development of symptoms is often crucial for the veterinarian to establish a diagnosis and provide necessary care.

Prevention of poisonings may be accomplished through surveillance of the environment for changes, education of new pet owners regarding common risks such as acetaminophen in cats and antifreeze, and a good client-veterinarian relationship prior to the administration of any prescription or over-the-counter medications to pets.

RECOMMENDED READINGS

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